DOCUMENT RESUME

ED 229 077 JC 830 190

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TITLE Developing Learning Packets at South Oklahoma City Junior College.
INSTITUTION South Oklahoma City Junior Coll., Okla.
PUB DATE [83]
NOTE 75p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Behavioral Objectives; Community Colleges; Criterion Referenced Tests; *Learning Activities; *Learning Modules; Pretests Posttests; *Student Evaluation; *Teacher Developed Materials; Two Year Colleges

ABSTRACT

Seven learning modules are presented to aid instructors at South Oklahoma City Junior City College (SOCJC) in developing learning packets for their own courses. Each module contains a rationale and objectives, a pre-assessment test, informational material, learning activities, and a self-assessment instrument. The first module provides a general rationale for the development of learning packets by instructors, which links the educational philosophy of SOCJC to this instructional methodology. Each of the subsequent modules focuses on a different component of packet development, including: (1) the preparation of the rationale section of the learning packet, covering the purpose of a rationale, motivational factors, and characteristics of effective rationales; (2) the development of module objectives, describing behavioral objectives, course content planning, and classification and sources of objectives; (3) the selection, implementation, and sequencing of learning activities; (4) the application of principles of assessment, focusing on pre-, self-, and post-assessment, criterion-referenced vs. norm-referenced testing, and criterion test construction; (5) the development of alternate tracks to accommodate different learning styles: and (6) the revision of learning packets, based on periodic review, test results, and feedback, and the procedures for the approval of new or revised packets. (HB)

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DEVELOPING LEARNING PACKETS

at

South Oklahoma City Junior College

by

Robert F. Allen

JC 830 190

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Developing Learning Packets at South Oklahoma City Jr. College

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Module 1 - General Rationale

- I. - Rationale
- II. - Objectives
- III. - Preassessment
- IV. - Learning Activities
  - a. Educational Philosophy
  - b. Instructional Methodology
  - c. Modules & Learning Packets
  - d. The Professor's Role
- V. - Self Assessment

I. RATIONALE

This unit serves as a general introduction to the development of learning packets at South Oklahoma City Junior College. As professional employees, we must be familiar with educational philosophy as it relates to the methods espoused and the resources provided by this institution. Within the context of this philosophy we are responsible for effectively and creatively applying institutional resources to fulfill the function of the college. In this unit you will be provided with general information concerning the philosophy of this institution's guidelines on methodology and directions on how to use this learning packet.

II. OBJECTIVES

A. Briefly analyze the relationship of accessibility, comprehensiveness, flexibility, quality and accountability as indicators of college responsiveness to community needs and aspirations.

B. Differentiate between a systems approach to education and a more traditional approach so that a student could recognize at least two differences between the two.

C. Write a paragraph which explains how the systems approach to education influences the organization and development of modules and learning packets.

D. Given the assignment to develop a module for a course you teach, list the organizational sections of the module for which you are professionally accountable.

E. Accept the responsibilities for enhancing student achievement by applying your professional creativity and judgment in the development or maintenance and use of effective learning materials which fulfill institutional specifications.

III. PREASSESSMENT

After reviewing the foregoing objectives, if you feel that you can fulfill the objectives without further use of the learning activities, turn to page 4 and evaluate yourself by completing the self assessment provided.

If you don't think you can fulfill the objectives or find from the self assessment that you are unable at this point to fulfill all of the objectives, proceed to the section of this module entitled learning activities.

IV. LEARNING ACTIVITIES

A. Educational Philosophy

As a community college that is sensitive to the needs and aspirations of the community it serves, South Oklahoma City Junior College will be responsive as demonstrated by its accessibility, comprehensiveness, flexibility, quality, and accountability.

Accessibility

As an institution with an open-door admission policy, the college will be accessible to any citizen of post-high-school age and will provide an environment dedicated to learning and open to those who desire to learn.

The college will provide equal educational opportunities for and actively seek prospective students regardless of personal, economic or social conditions. Students will be encouraged to develop fully their capabilities and will be assisted in setting realistic educational goals for themselves.

Comprehensiveness

The college will be comprehensive by offering a wide variety of study and career options for its students, including preparatory, immediate job entry, developmental and community service programs. The offerings of the college will be determined by analysis of community needs and selected on a priority basis to the fullest extent of available resources.

Flexibility

The college will maintain maximum flexibility in the determination of its programs, phasing out those that become less relevant in time and initiating new ones in keeping with the changing needs of the community. Each student will have flexibility in moving from one level of study to another and from one career area to another. The college will seek to maintain the flexibility to accommodate individual differences in learning rates, aptitudes and prior knowledge.

Quality

The college is dedicated to providing quality education through excellence in personnel, programs and facilities. Such quality will be a determining factor in the accountability of all college personnel, programs, and facilities and will be judged against established performance criteria. The college seeks to engender in each student an understanding of learning

as a life-long process.

Accountability

South Oklahoma City Junior College accepts accountability for the quality and quantity of its output. In the belief that every student deserves the opportunity to succeed, the college will be accountable for creating an environment in which each student may, through the student's own endeavors, be successful. Student learning objectives and performance criteria will be established for each course. Objectives and performance criteria will be established for each of the college's programs and employees, and for the college itself. The success of students, employees, programs, and the college will be evaluated against these objectives.

B. Instructional Methodology

The instructional method to which South Oklahoma City Junior College has committed itself in order to provide quality educational programs while fulfilling its obligation for dealing with individual differences is a systems approach to education using a modular concept of course structure. The systems approach is basically a systematic process of planning through which the types and degrees of learning to be achieved are defined in measurable terms, the most appropriate teaching strategies and learning experiences are selected and implemented, the effectiveness of the learning activities are evaluated, and the system is refined or revised as necessary to insure that the desired learning objectives are achieved.

C. Modules and Learning Packets

For the systems approach to work effectively, the content of each course must be divided into manageable subunits of material. These are arranged in a logical sequence in order to lead the student from the entry level through intermediate levels and ultimately to the terminal levels of achievement designated for mastery of that course. As the principles of the systems approach are applied to each of the course content subunits, each subunit becomes a well-planned, highly organized vehicle to assist the student in moving from one level of achievement to the next. These subunits are called modules or units and include (1) a rationale, (2) instructional objectives stated in behavioral terms including criteria and conditions for evaluation, (3) learning activities to help the student achieve the objectives, and (4) a self evaluation.

Modules thus provide the instructor with the opportunity to develop, evaluate, and use a variety of media to enhance instruction for students on a given topic. The approach selected can be carefully and deliberately sequenced, tried out with students and revised until maximum achievement is demonstrated by the most students. Depending on how they are used, modules can be highly individualized or they can provide uniform instruction for a large number of students. While promoting freedom on the part of the faculty to be innovative in the use of instructional time and methods, the modular concept of course structure also provides for the flexibility necessary to accommodate for individual differences in students. The college master plan states:

To help accommodate individual differences in learning rates, aptitudes and prior knowledge, students are provided options for individual, group, and multiple paced instruction. That is, depending on the course section the student chooses, the student may proceed individually with the professor, with the group and the professor, or in a combination of the two.

The system approach to education coupled with the modular concept of course structure and a willing and creative faculty make possible the fulfillment of this commitment.

Once the course has been systematically developed, modularized, and approved, the student has available a learning packet which serves as a course guide. This clearly specifies what he or she must demonstrate in order to master the objectives of each module as well as the terminal skills, knowledge and behavior designated for mastery of the course as a whole.

D. The Professor's Role

You are the most important person in the process described. Whether or not you are involved in the development or revision of educational materials for the courses you teach, you are the one who must insure that student learning and achievement is enhanced. By virtue of the job description in your contract for professional employment, you are accountable for the development and maintenance of learning materials meeting the general specifications described.

The purpose of this document is to assist you in fulfilling institutional expectations by providing you with guidelines, aids, and information concerning resources which may save time and help avoid pitfalls while giving you the freedom to express your creativity and professional judgment in designing systems, activities, and materials to facilitate student learning.

This learning packet is organized into modules which deal specifically with each of the module/learning packet components for which you are accountable. Aside from these guidelines, the materials presented are intended only to suggest possible avenues, stimulate your imagination or guide you to more difinitive resources which are available within this institution. Decisions concerning course content, the selection of appropriate learning activities, and the designation of mastery criteria must be based upon your professional judgment and experience.

V. SELF ASSESSMENT

1. Briefly analyze the relationship of each of the following as indicators of the responsiveness of SOCJC to the needs and aspirations of the community it serves.

   a. accessibility -

b. comprehensiveness -

c. flexibility -

d. quality -

e. accountability -

2. Differentiate between a traditional and a systems approach to education so that a student could recognize at least two differences between the two.

3. Write a paragraph explaining how the development and organization of modules and learning packets is influenced by the systems approach to education.

4. List the organizational sections of a module for which you are professionally accountable.

Self Assessment Answers:

1. See description of educational philosophy on page 2 of this module or A Plan for the Future: Master Plan Revision No. 1, pp. 4-6.

2. Review the description of the systems approach on page 3 of this module or read the material presented in the book, Modular Instruction, by James D. Russell, pp. 25-29.

3. Review the sections entitled "Instructional Methodology and Modules" and "Learning Packets" in this module.

4. See page 4 of this module or the job description portion of your contract and read the information presented under "Instructional Methods" on page 11 of A Plan for the Future: Master Plan Revision No. 1.

Developing Learning Packets at South Oklahoma City Jr. College
Module 1 - General Rationale
Module 2 - Rationale
Module 3 - Objectives
Module 4 - Learning Activities
Module 5 - Assessment
Module 6 - Alternate Tracking
Module 7 - Approval & Revision

Module 2 - Rationale
I. - Rationale
II. - Objectives
III. - Preassessment
IV. - Learning Activities
a. The Purpose of a Rationale
b. Motivational Factors
c. Characteristics of an Effective Rationale
V. - Self Assessment

I. RATIONALE

The most enjoyable, relevant and effective instructional module in the world will have little effect on a student unless you stimulate his interest and involve him in its learning activities. Ideas will be presented in this unit to help you be more effective in attracting the attention of students to a module while enhancing their motivation to learn.

II. OBJECTIVES

A. Recognize from a group of descriptions the principal purpose of the rationale section of a module.

B. Suggest in writing the possible role of each of three factors, presented in this module, which may aid students in recognizing the value or relevance of a unit of instruction.

C. List four characteristics of an effective rationale.

D. Adopt and consistently apply a procedure for assessing the effectiveness of rationale statements in motivating students and communicating the relevance of modules you are developing or revising.

III. PREASSESSMENT

If you believe that you can accomplish the objectives of this module without reference to the information presented in the Learning Activities section, turn to page 9 and take the self assessment.

If you were able to fulfill the objectives of this module, go on to the next module. If you were unable to fulfill all of the objectives or do not feel confident, refer to the material presented in the next section of this module.

IV. LEARNING ACTIVITIES

A. Why a Rationale?

When a professor designs a course, he should insure that the knowledge and skills his students acquire will be useful to them whether it be later in the course, in a subsequent course, in their job, or in some other situation the student is likely to encounter in life. If an instructor fails to do this or to communicate the relevance of the subject matter to his students, he runs the risk of losing them due to lack of interest or motivation. Thus, the rationale should relate the content of a specific module to the interests and needs of the student and justify the time the student will spend acquiring competencies described by the objectives. Without this recognition of purpose, the learning activities may represent hurdles to the student rather than relevant activities. More simply stated, the rationale should answer the "So what?" questions of the student.

B. Motivational Factors

What is motivating or meaningful to one person may not be to another. For this reason it is possible that anything taught could be meaningful to someone at some time yet might not be meaningful to anyone at another time. There are, however, three ways which may greatly improve the probability that the relevance of modules will be recognized by students. These include:

1. relating instruction to the student's past experience.
2. relating instruction to the student's interests and values.
3. relating instruction to the student's future.

Although these three principles provide a rather broad basis for the development of a rationale, the great diversity in background and goals of our students may make it impossible to motivate the majority of students with one approach. For this reason it may be necessary to include in the rationale different students. While it would not be feasible to provide a motivator for each student, a professor could reach the majority by identifying groups of students with similar aspirations and select a common motivator for each group. In a particular course, majors and nonmajors might represent two such groups.

C. Characteristics of an Effective Rationale

According to Robl, Anderson, and Kurtz (1972), an effective rationale should:

1. be positively motivating.
2. explain how the module fits into the total course.
3. be a convincing statement of why he should spend his time studying the module.
4. be non-instructional.

One possible approach to validating a rationale would be to simply ask yourself if it satisfies the four criteria indicated. Another approach would be to ask several colleagues or students to evaluate the proposed rationale using these criteria. If it is determined that your rationale satisfied at least three out of the four criteria, then your rationale will probably serve its purpose well.

V. SELF ASSESSMENT

A. (Circle the number next to each correct response.)

The principal purposes of a rationale are to:

1. indicate the teacher's role.
2. be positively motivating.
3. answer "Why bother?" questions.
4. specify prerequisites.

B. Suggest in writing how each of the following may aid students in recognizing the relevance or value of a unit of instruction:

1. relating instruction to the student's past experience -

2. relating instruction to the student's interests and values -

3. relating instructions to the student's future -

C. Four characteristics of an effective rationale are:

1.

2.

3.

4.

Self Assessment Answers:

A. 1)
(2)
(3)
4)

B.

C. See page 8 of this module.

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Module 3 - Objectives
I - Rationale
II - Objectives
III - Preassessment
IV - Learning Activities
a. Behavioral Objectives--What and Why.
b. Planning Course Content
c. Classifying Objectives
d. Sources of Objectives
V. Self Assessment

I. RATIONALE

The ideas presented in this module will not only aid in the development of objectives which are relevant to your courses, but also may help you to organize systematically course content while increasing the quality and variety of objectives employed.

II. OBJECTIVES

A. Write a paragraph which states at least two advantages of behavioral objectives to the instructor and two advantages to the student.

B. Recognize, name, or describe the necessary components of behavioral objectives.

C. Given a list of objectives, identify those stated in behavioral terms.

D. Given a list of behavioral objectives, correctly indicate the words describing: (1) measurable behavior, (2) acceptable performance criteria, and (3) conditions of evaluation.

E. List in sequence the steps recommended in this learning packet for planning subject content for a course.

F. Differentiate between cognitive, affective, and psychomotor behavioral objectives from definitions and recognize or give an example of each.

G. In the development or revision of course materials, attempt to insure that all behavioral objectives have the three necessary elements, are relevant to the terminal goals or competencies defined for mastery, and are organized to facilitate student learning. This will be measured by your willing and consistent application of the ideas presented in this module and resource materials which seem pertinent in your professional judgment.

III. PREASSESSMENT

If you think you can fulfill the objectives of this unit without reference to the learning activities, turn to page 22, and evaluate yourself by taking the self assessment. If you don't think you can fulfull the objectives of this module, proceed to Section IV of this module.

If you find from the self assessment that you were not able to fulfill some of the objectives, follow the instructions given in the self assessment answers which will direct you to the parts of this module which can help you to fulfill those objectives.

IV. LEARNING ACTIVITIES

A. Behavioral Objectives--What & Why?

Select the learning activity below which is most compatible with your preferred learning style. Regardless of the learning activity selected, when you have completed it, you should be able to accomplish objectives A, B, C, and D.

Learning Activity 1

Read the programmed learning booklet entitled Preparing Instructional Objectives, pages 1-53, by Robert F. Mager. Copies of the booklet are available in the LRC or may be obtained from your program manager.

OR

Learning Activity 2

View the tape/slide presentation entitled Objectives for Instructional Programs (adapted for use at SOCJC) which is available in the LRC.

B. Planning Course Content

Before the systems approach to education can be implemented in a course, a certain amount of preliminary work is essential if the course is to fulfill its intended purpose. The following seven steps will be helpful in the planning process.

1. Analyzing the Students - The first step in planning and organizing a course is to analyze the student. This is particularly important in introductory courses where there is a greater difference in background. Student analysis is based upon the premise that the more an instructor knows about his students, the better equipped he will be to design meaningful learning activities for them. Whether formal or informal, this analysis attempts to discover as much as possible about the following areas:

BACKGROUND	INTERESTS	NEEDS
Student's knowledge of the subject, his age, year in school, marital status, etc.	Major, employment experience, hobbies, etc.	Future employment goals, course expectations, reasons for taking the course.

Information concerning students may be obtained through various means. The list below is provided to suggest some possibilities.

SOURCE OF DATA	KINDS OF DATA
Institutional Research (i.e., Institutional Status Study, Institutional Self Study, Research Monographs, Cognitive Style Mapping, etc.)	Student Profiles, ACT Scores, Learning Style Inventory, Reading Levels, Self Concept.
Experience with Former Classes or Preassessment	S.I.R., Background Knowledge, Range of Interests.
Personal Interview or Class Survey	Personality, Reasons for Taking Course, Commitment, Expectations.

The student analysis can provide answers to the questions an instructor must answer in making decisions about the following:

OBJECTIVES	CONTENT	ORGANIZATION
Identifying course objectives based on analysis of students and their needs.	Selecting content that meets the objectives.	Organizing content into a logical sequence.

2. Categorizing Students - The second step in the process is to divide students into groups according to their needs. In addition to considering the needs determined through the student analysis, the instructor should check the requirements of programs served by his course, departmental requirements of other schools to which a significant number of students may transfer and the expectations of future employers. Once these factors have been determined, the students may be divided into groups. For example, students in a microbiology course would likely be interested in several possible courses of study, three of which are:

Associate Degree--Nursing	Associate Degree--Science (Biology)	Certificate of Mastery-Surgical Technology

3. Developing Competency Statements - The third step is to develop a competency statement for each student group. This competency statement is a description of the skills and knowledge a student should have mastered when he completes the course. It must take into consideration the needs established in the preceeding step.

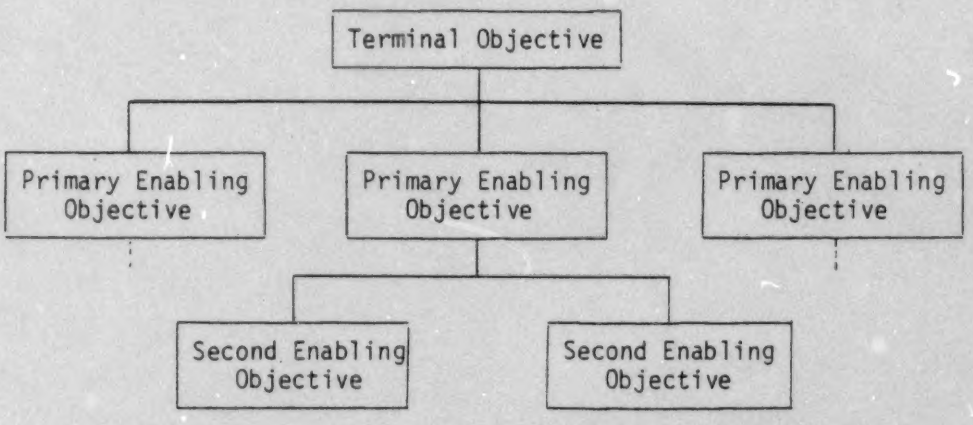
Associate Degree -- Nursing	Associate Degree-- Science (Biology)	Certificate of Mastery-- Surgical Technology
The student will demonstrate knowledge of basic principles of pathology, epidemiology and immunology with emphasis on the following: virulence factors, antibiotics, disease transmission.	The student will possess broad and general knowledge of the biological requirements and activities of microorganisms which influence their roles as integral components of the ecosystem including the following: anatomy, physiology, symbiosis . . .	The student will demonstrate understanding and application of measures and materials common to current health practices for the control of undesirable microorganisms. Emphasis will be placed on the following: asceptic technique, antibiotics. . .

4. Translate Competency Statements into Measurable Objectives - In this step the instructor breaks down the competency statements into smaller units which are expressed in behavioral terms. These are the objectives that students in a particular group must fulfill by the end of the course in order to attain the goals described in the competency statements. Sometimes these are called terminal objectives. For example, terminal objectives for a nursing student in a microbiology course might include:

Describe the characteristics of common diseases found in Oklahoma including their pathology, epidemiology, and control.	Recognize the factors which may contribute to the initiation, propagation, and control of an epidemic.

5. Reduce Terminal Objectives to Enabling Objectives - It should be obvious that specific knowledge about several different things would be necessary before a nursing student could demonstrate mastery of either of the foregoing terminal objectives. For instance, he would have to know what diseases are found commonly in Oklahoma in addition to knowledge of pathology, epidemiology, and control. In this step we analyze each terminal objective to determine what competencies are prerequisite to student achievement of the terminal objective. Once defined in measurable terms these enabling objectives define the knowledge or skills necessary for achievement of the terminal objectives. As this process is carried out,

enabling objectives should be evaluated for skills or knowledge which are prerequisite to this achievement. Ultimately you may end up with a hierarchy of objectives similar to that depicted below.

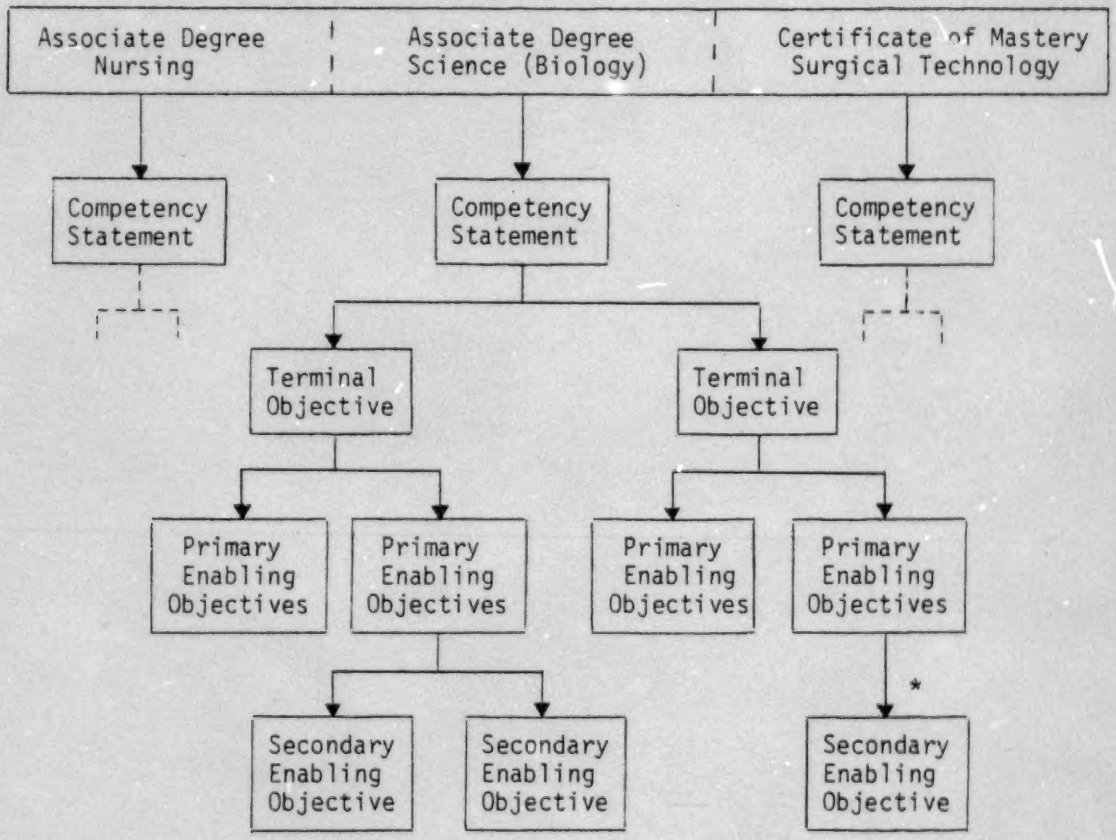


6. Identify Subject Matter - Using the hierarchy of objectives thus developed as an outline, it should be relatively easy to identify the subject matter necessary for the course. Objectives and subject matter which overlap from different student groups would constitute the core content or major emphasis for the course. Other objectives and their associated subject matter still must be taught but should receive less emphasis or could be presented in the form of optional activities for certain students.

7. Organize Content into Logical Sequence - Once the terminal and enabling objectives have been developed and the subject matter has been defined, the instructor may simply organize the course by determining which objectives are prerequisite to others and by dividing them into readily manageable groups.

   To review the process for planning course content, review the chart on the following page.

A GUIDE TO PLANNING COURSE CONTENT



Step 1: Analyze Students

Step 2: Categorize Students into Groups

Step 3: Develop Competency Statements for each Group

Step 4: Write Terminal Objectives for each Competency Statement

Step 5: Determine Enabling Objectives for each Terminal Objective

Step 6: Identify Subject Matter

Step 7: Organize Course into a Logical Sequence

*Notice that the arrows move downward indicating the starting point at the top, rather than at the bottom. Unfortunately, many instructors move from the bottom up selecting the details before they envision the course as a whole or take into consideration the needs of the greatest number of students.

C. Classifying Objectives

The purpose of education is to bring about change in learners. Behavioral objectives describing the changes desired naturally fall into three domains. Those requiring recall, recognition of knowledge, or the development of intellectual abilities are referred to as cognitive objectives. Those describing changes in interests, attitudes and values are called affective objectives. Those describing changes in the manipulative or motor skill area are termed psychomotor objectives.

The taxonomies which are summarized below were developed by Bloom (1956) for the cognitive domain, and Krathwohl, Bloom, and Masia (1964) for the affective domain. They are pertinent to this learning packet because they can (1) help instructors translate broad goals or competencies into more precise objectives, (2) permit a comparison of course or module objectives with a variety of possible outcomes possibly suggesting classes of objectives not previously considered, (3) give perspective on the emphasis given to certain levels of behavior in a course, and (4) facilitate the exchange of information concerning curriculum development and evaluation. Within each domain, the behaviors are arranged to describe behavioral change from simple to complex with each succeeding behavior including the preceding, simpler behaviors.

1. Taxonomy of the Cognitive Domain

   a. Knowledge--involves the recall of specifics and universals, methods and processes, patterns, structures or settings from appropriate signals or cues.

   b. Comprehension--involves the use of the materials or ideas or a communication, regardless of the symbolic form of presentation, in terms of the literal meaning, i.e., the receiver can demonstrate the use of an abstraction, for example.

   c. Application--the selection and use of an appropriate abstraction (concept, generalization; or principal) without having to be prompted as to which is correct or having to be shown how to use it in a given situation.

   d. Analysis--emphasizes the breakdown of a communication into its consistent parts detecting the relationship of the parts, the way they are organized, and even the techniques and devices used to convey the meaning of or to establish the conclusion of a communication.

   e. Synthesis--the putting together of elements and parts so as to form a more complete whole (comprehension, application, and analysis) not clearly there before.

   f. Evaluation--the making of judgments for some purpose using criteria or standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying.

An effective approach to the development of cognitive behavioral objectives at varying taxonomic levels is the use of a list of action verbs arranged in accordance with the taxonomic criteria as shown on the next page. Care must be taken in the process to insure that the verb is used in the objective in a way that is compatible with the intent or emphasis of the category.

COGNITIVE DOMAIN ACTION VERBS

KNOWLEDGE	COMPREHENSION	APPLICATION
Emphasis: Recall	Emphasis: Grasp of meaning, intent, or relationship.	Emphasis: Applying appropriate principles or generalizations.
Choose from a list (judgment not involved)	Classify	Apply
Define (give a dictionary definition)	Define (in student's own words)	Collect Information (supply correct equation or formula)
Fill in the blank (or complete)	Describe	Compute
Follow directions	Explain	Construct
Identify	Express in other terms	Convert (in math)
Indicate	Find (as in math)	Draw
Label	Measure	Determine (calculate)
List	Paraphrase	Demonstrate
Locate (on a map or a given document)	Put in order	Derive
Match	Recognize	Differentiate between
Name	Rewrite	Discuss
Select (judgment not involved)	Simplify	Distinguish between
Memorize	Suggest	Expand
Repeat	Summarize	Express in a discussion
Record	Trace (on a map, chart, etc.)	Estimate
Recall	Restate	Find (implies investigation)
Underline	Report	Interpret
	Review	Investigate
	Tell	Illustrate (give examples not previously specified)
	Math	Graph
	Add (find the sum)	Keep records
	Balance	Locate (information)
	Calculate	Make
	Compute (using a given formula)	Participate
	Divide (find the quotient)	Perform (except in math or in public)
	Factor	Plan
	Find the square root or raise to power	Predict (from known factors)
	Multiply (find the product)	Prepare
	Perform operations on numbers	Present
	Subtract (find the difference)	Prove (in math)
		Solve (problems expressed in words)
		Use
		Trace (development, history, process)
		Translate
		Employ
		Dramatize
		Practice
		Operate
		Schedule
		Shop
		Sketch

Cognitive Domain Action Verbs (con't.)

ANALYSIS	SYNTHESIS	EVALUATION
Emphasis: Breaking into constituent parts and detecting relationships of the parts and the way they are organized and organizing material according to a coherent pattern.	Emphasis: Putting together elements or parts to form a whole that reflects originality.	Emphasis: On values, making qualitative or quantitative judgment, using criteria from internal or external sources and standards.
Analyze	Combine and organize	Choose (based on evaluation)
Compare and Contrast	Design	Decide
Criticize	Devise	Evaluate
Debate	Develop	Judge
Deduce	Perform (in public)	Make a decision
Determine	Produce	Appraise
Differentiate between (by analysis)	Present (an orignial report or work)	Rate
Draw conclusions	Write (an orignial composition)	Value
Formulate	Compose	Revise
Form generalizations	Plan	Score
Make inferences	Propose	Select
Organize	Formulate	Assess
Relate (show relationships)	Arrange	Estimate
Calculate (not math)	Assemble	
Experiment	Collect	
Test	Construct	
Criticize	Create	
Diagram	Set up	
Inspect	Manage	
Inventory	Prepare	
Question		
Examine		

2. Taxonomy of the Affective Domain

   a. Receiving--involves the development of an awareness on the part of the student that certain phenomena or stimuli exist. Depending on the level of response of the individual, behavior may range from awareness to tolerance and finally attention to the stimulus or phenomenon.

      Examples:

      The student recognizes that there may be more than one acceptable point of view.

      The student is tolerant of cultural patterns different from his own.

      The student listens to poetry with some discrimination as to its mood.

b. Responding--involves a response on the part of the student which indicates a willingness to participate or commit himself to some degree to the phenomena. This may vary from simple compliance, to willing participation, and finally pleasure in responding.

Examples:

The student complies with class rules.

The student voluntarily seeks information about topics he is interested in.

The student finds pleasure in listening to a variety of vocal or instrumental music.

c. Valuing--indicates the student's acceptance of a behavior, phenomenon, or object as something of worth. Behavior at this level may vary from belief or simple acceptance to a preference for and ultimately a commitment to something.

Examples:

The student recognizes the value of companionship as an essential element in the success of marriage.

The student writes letters to the editor on issues he feels strongly about.

The student demonstrates loyalty to the organization to which he belongs.

d. Organization--indicates the analysis of alternative values in order to develop a personal value system and the subsequent establishment of that system.

Examples:

The student seeks to identify the characteristics of a painting that he admires.

The student looks beyond his own special interests to objectively evaluate alternative social programs.

e. Characterization by a Value or Value Complex--indicates that the student acts consistently in accordance with the value system he has internalized.

Examples:

The student will change his mind when new facts demonstrate a need for revision of opinions.

The student adopts a consistent philosophy of life.

When developing or applying affective objectives, the instructor should validate each by answering the following questions:

BEHAVIOR

a. Is a student activity described?
b. Is the activity directly or indirectly observable?

c. Is the activity an approach behavior?
d. Is the behavior high probability?

CONDITIONS

e. Is a testing situation described in which the approach behavior may occur?
f. Are two alternatives presented to the student?
g. Are cues that indicate expected behavior eliminated?
h. Does the teacher influence the student's choice?
i. If an indirect observation, are there any clues that attitude is being evaluated?

CRITERIA

j. Is a number specified?
k. Would the fulfilled criteria indicate a pattern?
l. Are the criteria realistic?

ATTITUDE

m. Is a descriptive statement included that indicates interest, desire, or appreciation?

3. Taxonomy of the Psychomotor Domain

a. Movements--included in this category are physical actions or movements of the body or body parts. Running, jumping, flexing, dancing, and singing are a few examples.

b. Movement with Objects--this category includes skill in the manipulation of tools or objects through the coordinated neuromuscular activities of the body. Examples include painting, batting, typing, hammering, etc.

When developing or evaluating psychomotor objectives, the instructor should ask the following:

a. What must the student do in order to perform the behavior specified in the objective?

b. What sequential movements are necessary in order to produce the desired outcome?

c. What criteria will provide for diagnosis and remediation of motor performance?

D. Sources of Objectives

Although rewarding, developing objectives can be a very time consuming process. In many cases some of that time could be saved by simply making better use of the resources which are available. For instance, most courses have undergone several revisions and many objectives have been lost in the process because lists of old objectives were not kept and compiled into institute or institution-wide lists of objectives. Many subjects are considered in different courses and disciplines. Yet there has been little communication of needs or resources between the instructors involved. The simple procedure of developing a list of objectives by the faculty within each discipline could be very productive.

There are a number of commercial sources through which behavioral objectives may be obtained in many subject areas. Instructional objectives for a number of junior college courses are available on microfiche from ERIC Document Reproduction Service. A source for objectives in science, social science, mathematics, and language arts that are currently available in the LRC is entitled Learning Objectives for Individualized Instruction. Although these objectives may not be exactly what you need for a course you are developing, they may be readily adapted or give you some good ideas in areas that are difficult to deal with.

V. SELF ASSESSMENT

A. Write a paragraph which states at least two advantages of behavioral objectives to an instructor and to a student.

B. Circle the correct response(s) to each of the following items:

1. A properly constructed behavioral objective would be best characterized as a statement which:

   a. states what is to be done, who is to do it, and when.
   b. has an introduction, statement of purpose, and limitations.
   c. states what the instructor is to do, under what conditions, and with whom.
   d. states what the learner is to be able to do, under what conditions, and how well.

2. Cognitive objectives describe:

   a. a person with a one-track mind.
   b. actions of a person showing symptoms of illness.
   c. tasks which require the use of the mind.
   d. skills which require guidance of the mind.

3. Psychomotor objectives describe:

   a. an ambulatory person in a psychiatric ward.
   b. actions involving neuromuscular activity.
   c. psychic malfunction due to muscle disability.
   d. actions involving mental manipulation.

C. Classify the following objectives according to criteria a-e below by writing the letters of the applicable criteria in the space on the left of each objective. More than one response may be necessary for each objective.

   a. - Is stated in behavioral terms.

   b. - Is not stated in behavioral terms.

   c. - Is primarily cognitive in nature.

   d. - Is primarily affective in nature.

   e. - Is primarily psychomotor in nature.

_____ 1. You will demonstrate your ability to make 7 out of 10 putts from randomly selected spots on the green.

_____ 2. The student will learn the reasons for the Monroe Doctrine.

_____ 3. When placed in a hypothetical situation as the leader of a role-playing group which has a decision to make, you will state and defend a decision so that the group will support you as their leader.

_____ 4. After the study of the use of vivid verbs, the student will exhibit an increasingly positive attitude toward their use by such acts as using a dictionary to look up synonyms and related words, incorporating more of them in his writing and conversation, and commenting on their use by other authors.

_____ 5. The student will be able to appreciate the role of the founding fathers in writing the Constitution.

D. Identify the components of each of the behavioral objectives below by (1) Circling the words describing measurable behavior, (2) Underlining the words indicating conditions of evaluation, and (3) Drawing a box around the words describing acceptable performance criteria.

1. You will demonstrate your ability to roll at least two consecutive strikes at least once in two lines the same game.

2. Given the unencountered poem, "The Sword" by William Blake, the student will state at least one of five ways in which the symbolism in the poem could be interpreted.

3. As the course in American literature progresses, the student will demonstrate more positive than negative behavior in such ways as using literary examples during class discussions, asking for approval of "good books" for addition to his reading list, attending book reviews on a voluntary basis, completing reading assignments ahead of schedule, and trying to stimulate disinterested classmates.

4. List in sequence the steps recommended in this learning packet for planning the content for a course.

Self-Assessment Answers:

A. Review Preparing Instructional Objectives, by Mager, pages 3-9, or review the first five minutes of the tape-slide presentation, Objectives for Instructional Programs (adapted for use at SOCJC).

B. 1. d - If your response was incorrect, review Preparing Instructional Objectives, by Mager, pages 5-13 or the tape-slide presentation, Objectives for Instructional Programs.

2. c
3. b

If your response was incorrect, review page 15 of this unit.

C. 1. a,e
2. b,c
3. a,c
4. a,d
5. b,d

If you missed more than one of crition a or b, review Mager, Preparing Instructional Objectives or the tape-slide presentation Objectives for Instructional Programs. If you missed more than one of criteria c, d, or e, review pages 15-22.

D. 1. You will demonstrate your ability to roll at least two consecutive strikes at least once in two lines the same game.

2. Given the unencountered poem, "The Sword" by William Blake, the student will state at least one of five ways in which the symbolism in the poem could be interpreted.

3. As the course in American literature progresses, the student will demonstrate more positive than negative behavior in such ways as using literary examples during class discussions asking for approval of "good books" for addition to his reading list, attending book reviews on a voluntary basis, completing reading assignments ahead of schedule, and trying to stimulate disinterested classmates.

If you missed more than one element on all of the objectives, review Mager, Preparing Instructional Objectives or the tape-slide presentation Objectives for Instructional Programs.

E. Review page 14 of this learning packet.

Developing Learning Packets at South Oklahoma City Jr. College
Module 1 - General Rationale
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Module 4 - Learning Activities
I. Rationale
II. Objectives
III. Preassessment
IV. Learning Activities
A. Identifying Resources
B. Selecting Learning Activities
C. Sequencing Learning Activities
V. Self Assessment

I. RATIONALE

This module will enhance student achievement in your courses by helping you with the selection, implementation, and sequencing of learning activities which insure adequate practice and feedback for the students.

II. OBJECTIVES

A. In your own words, write a definition of the term learning activity which is consistent with its use in this module.

B. Write a rationale for the selection of learning activities based on the following:

1. module objectives
2. student characteristics
3. instructor characteristics

C. Using the information provided in this module, compare the advantages and limitations of a learning activity employed in one of your courses with those of a possible alternative learning activity.

D. Describe three possible techniques for sequencing the learning activities in a module.

E. Describe a method used in one of your courses for providing students with practice and feedback. Then discuss in writing two alternative methods which could be substituted for each.

III. PREASSESSMENT

If you believe that you can accomplish the objectives of this module without reference to the information presented, turn to page 35 and take the self assessment.

If you are uncertain about being able to fulfill the objectives or have determined from the self assessment that you could not fulfill the objectives of this unit, refer to the material presented in the next section of this module.

IV. LEARNING ACTIVITIES

A. Identify Resources

A variety of resources and teaching aids can greatly strengthen a course. The first step in planning the learning activities for a course is to identify the resources that are available from which you may make your selection. The following list of resources is meant to be suggestive, not exhaustive.

Audio-Visual

Films
Transparencies
Simulations
Programmed materials
Photographs
Slides
Audio-tapes
Video-tapes
Television

Organizations and Institutions

Businesses and Industries
Libraries
Learning resource centers
Foundations
Educational Television (KETA)
Federal, State, and Local Governmental Agencies
Clubs and Fraternal Organizations

People

Guest lecturers - (from industry, for example)
Other professors
Students

Printed Sources

Reprints of magazine articles
Bibliographies
Magazine subscriptions

Most communities provide services and resources which are often ignored or overlooked by educators. While evaluating these resources, the instructor must identify those which are available and adaptable for use in the instructional phase of his course. If the necessary instructional materials are not available, consideration should be given to producing them. The following is a general listing of the

media production services available through the Learning Resource Center.

Audio, TV, and Photographic Services

Audio Recording
Audio Tape Duplicating
Live Studio Video Recording in Color
Location Video Recording in Color or Black and White
Recording 16 mm Films on Videotape
"Off the Air" Video Recording
Video Tape Duplication
16 mm Motion Picture Production
Super 8 mm Motion Picture Production
Photograph, 35 mm Slide and Filmstrip Services

Graphic Department Services

Composition, Layout, and Design of Printed Material
Preparation of Illustrations, Charts, Maps, etc. for Learning Packets
Preparation of Illustrations, Charts, Maps, etc. for Classroom Use
Hand Lettering
Graphics for T.V.
Free-hand Art

Printing Services

Printing
Collating
Binding
Quick Copy

Media distribution services of the LRC provide assistance with the following:

Media Preview, Selection, and Ordering
Cataloging and Storing
Film Rental
Equipment Delivery and Pick-up
Media Distribution

Specialists in any of the areas listed will be happy to provide their professional assistance in the areas of media production or selection.

B. Selecting Learning Activities

Once you are aware of the resources available, you must determine which materials and activities would be most appropriate for your course. In this module, learning activities are considered to be means by which principles, concepts, or information may be transmitted to students to bring about changes in their behavior. Thus, learning activities are means to an end, not ends in themselves. They are to assist the student in mastering performance objectives by providing appropriate practice and reinforcement activities.

Under a systems approach the instructor's role shifts from that of merely presenting course content to that of managing the learning environment to produce measurable behavioral change. Thus, the focus should be on what the student can do after participating in learning activities which he could not do or only partially do before.

The selection of learning activities should be based primarily upon three factors:

1. the objectives of the module
2. student characteristics
3. instructor characteristics

An analysis of the objectives should provide the most important clues concerning the activity or combination of activities most appropriate. If the behavior described in the objective specified recall, the learning activities should include instructional methods which cause students to practice recall. If the objective involves problem solving capability, then the learning activities selected should provide practice and experience in solving problems. In other words, the purpose of the learning activity is to change behavior, not simply to present information. For this reason, it is imperative that learning activities be in agreement with and appropriate for module objectives.

Student characteristics are also important considerations in the selection of learning activities. Some students are oriented primarily toward learning through visual stimuli while others respond best to physical or oral-aural stimuli. Because of these individual differences, students are more likely to learn if they are provided with instructional materials and activities which are compatible with their preferred learning styles.

Personality characteristics of the instructor must also be considered in the selection of learning activities. If an instructor is uncomfortable using a particular method, manifestation of discomfort or uncertainty may be distracting to students or adversely affect their attitude toward the instructor or the activities. Each instructor should examine his personal strengths and preferences as he considers the materials and activities which are available. Instructors should avoid the exclusive use of a single method that they use well or are accustomed to (usually a textbook-lecture method).

Listed on the following page are some of the more common learning activities along with some of the advantages and disadvantages which should be considered when comparing alternatives.

LEARNING ACTIVITY	ADVANTAGES	LIMITATIONS
Lecture	Good for principles and concepts Covers a large amount of information quickly Can be broadcast to many locations May use a variety of media Effective in presenting background information Teacher can control emphasis, content, and sequence Primary oral-aural	Student limited to passive role Difficult to check learning Difficult to entertain individual questions Provides limited feedback for student
Discussion	Encourages problem solving activity Good for assignments and briefings Provides understanding of student backgrounds Good for review and clarification of the more difficult concepts Places some responsibility on student Primarily aural-oral	Limited group size Time consuming Requires skills in stimulating questions Requires skills in human relations Shy students hesitant Grading on participation creates pressures Student must prepare in advance
Demonstration	Saves time and talk Creates interest Often clearer than verbal demonstrations Provides concrete explanations from which abstract principles can be discussed Can be presented to large groups Provides standards and models for student expectations Primarily visual and oral-aural	Little student participation Requires much teacher preparation May require expensive equipment Requires rehearsals Outdoor demonstrations affected by weather
Practical Exercise (Lab/ on the job)	Provides practice and experience Creates interest through application Provides feedback and reinforcement Permits student evaluation of learning Primarily physical, visual, and oral-aural	May require expensive equipment Requires extensive preparation and support Facilities must provide for participation by all Instructor must provide supervision

LEARNING ACTIVITY	ADVANTAGES	LIMITATIONS
Self paced instruction: Tape-slide presentations, Video-taped presentations, Self-contained learning packets, Programmed texts	Student proceeds at own rate Designed for performance objectives Provides reinforcement Learner can master one step before going to the next Learner actively participates Low error rate Validation of materials and program assures success High retention Provides standardization of content	Takes much time to prepare Requires training and experience to produce Some learners dislike the tedium of small steps May not be compatible with a particul r school "system" schedule Hard to provide ways for problem solving and discovery

Many other learning activities are, of course, possible: field trips, seminars, tests, field research, and so on. An instructor is limited only by his imagination and energy.

Most students are highly dependent upon direct experience. In modules in which new concepts or principles are introduced, direct experience is usually necessary to facilitate student progression from perception through conceptualization to application. When selecting learning activities, it is generally best to start with real objects or actual experiences whenever possible. If considerations such as time, size, cost, or danger preclude the use of real experiences in learning activities, students may become physically involved with artificial or simulated experience. If these are impractical, indirect experience through the use of audio-visual media may be desirable. Finally, if all of the foregoing are impractical, audio or visual representation of the experience may be employed. As shown on page 32, these can be arranged in a hierarchy of effectiveness. Since the purpose of learning activities is to aid students in achieving terminal behavioral criteria for modules, the instructor should select activities which are as close as possible to real experience.

SELECTING LEARNING ACTIVITIES

SIGHT ONLY SOUND ONLY	SIGHT AND SOUND	SIGHT, SOUND, TOUCH, (TASTE), (SMELL)	SIGHT, SOUND, TOUCH, TASTE, SMELL
(Passive Experience)	(Passive Experience)	(Simulated Experience)	(Real Experience)

LEAST EFFECTIVE ← ---------- → MOST EFFECTIVE

Student hears or sees a description of a learning experience as listening to a lecture, seeing visuals, or reading. (i.e., silent films, slides, filmstrips, photographs, records, cassette tape recordings, readings, lectures, etc.)	Student sees and hears a learning experience through someone else's experience, as in viewing instructional motion picture film or video tape. Other audio visual aids may be included. (i.e., T.V., video tapes, sound motion pictures, tape-slide presentations, sound filmstrips, dramatization, etc.	Student sees, hears, touches, (and occasionally tastes and smells) a learning experience through first hand observation as a simulation or field trip. (i.e., simulations, role playing, models, mock-ups, exhibits, demonstrations, games, etc.)	A student sees, hears touches, tastes, and smells in a learning experience first hand, as in a real on-the-job experience, working with real objects, or operating equipment.

Other pertinent questions to be answered by the instructor while selecting learning activities include:

1. Is it important to the accomplishment of module objectives?
2. Is it compatible with the estimated learning time available?
3. Will it be interesting to students?
4. Will students recognize its relevancy?
5. Are options provided to satisfy individual differences in interest, background, and learning rates?

C. Sequencing Learning Activities

Once the learning activities have been selected it is necessary to sequence than to effectively bring about the desired changes in student behavior. There is no single best way to sequence the learning activities of a particular module. Frequently the sequence is dictated by the subject matter or determined by the characteristics of the students for which the module is being designed. Some sequencing techniques recommended by Russell, 1974 include:

1. Progress from concrete objects or experiences to more abstract ideas.
2. Progress from simple or elementary to more complex manipulations, principles, or understandings.
3. Progress from isolated facts to integrated principles or relationships.
4. Progress from specific to general--inductive.
5. Progress from general to specific--deductive.
6. Progress from known to unknown.
7. When teaching a process, progress from beginning to end--temporal or chronological ordering.

Another consideration in the sequencing of learning activities is how flexible or structured your program of learning will be. In other words, will you allow the student to arrange his own sequence of using the activities or will you as the instructor specify the pattern to be followed by all students? If a hierarchy for the objectives of a module has been established, this may prescribe the sequence of learning activities.

Regardless of the sequence selected, an instructor must insure that the learning activities provide practice and feedback to students so that they are sure of their skills. Practice activities should be related closely enough to specific module objectives that student responses are similar to responses required on the post-test. This can be done by giving students practice problems in all important subject areas and by introducing those problems into a variety of contexts so that they can adapt the information to a number of settings. Specific examples as to how opportunities for practice may be provided are given on the following page.

WAYS OF PROVIDING PRACTICE	COMMENTS
Practice tests	Tests should be much like the actual tests on which student will be graded.
Alternate tests	These allow students a second chance to master material.
Opportunities to repeat lab experiments.	
Class discussion of problems	A student can often learn to solve problems vicariously, that is, by watching others solve them.
Opportunities to assist professor with research or projects	A student sees practical application of class content.

Although the importance of feedback on the learning progress of students is well recognized, the feedback actually provided to the student is often either insufficient or untimely. To be most effective the feedback should enable the student to identify his errors and compare his behavior with a standard. It must be given early enough in the learning process so that errors can be corrected and misunderstood concepts can be reconsidered. In supplying feedback, the emphasis must be on the underlying principles rather than just the correct answers. This may be accomplished in many ways.

WAYS OF PROVIDING FEEDBACK	COMMENTS
Immediate scoring and explanation of tests	A student needs to know not only what he missed, but why. This feedback should come quickly after his taking the test.
Small discussion groups	Students can help one another understand examination questions and solutions to problems.
Tape recorded grading of reports and papers	Provides an amplified and personal response to a student's work, clearer than usual cryptic comments in red ink.
Professor-student consultations	A student can receive evaluation of all his work.
Through the use of media	Knowledge of facts, concepts, and principles may be evaluated through the use of programmed texts, erasable cards or quiz frames followed by answer frames. Complex motor skills may be evaluated through the use of video recordings of demonstrations by experts. Complex interpersonal behavior or problem solving skills may be evaluated through audio or video recordings of the student

WAYS OF PROVIDING FEEDBACK	COMMENTS
	while interacting with others or while applying problem solving techniques.

V. SELF ASSESSMENT

A. In your own words write a definition of the term learning activity as it is used in this module.

B. Write a rationale for selecting learning activities based on module objectives, student characteristics, and instructor characteristics.

C. Using the information provided in this module, compare the advantages and limitations of a learning activity used in one of your courses with those of a possible alternative learning activity.

D. Three possible techniques for the sequencing of the learning activities in a module include:

1.

2.

3.

E. Describe a method used in one of your courses for providing student practice and feedback. Then describe two alternative methods which could be substituted for each.

Self Assessment Answers

A. See page 28 of this module.

B. See page 29 of this module.

C. See pages 30-31 of this module.

D. See page 33 of this module.

E. See pages 34-35 of this module.

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Module 5 - Assessment
I. Rationale
II. Objectives
III. Preassessment
IV. Learning Activities
a. Preassessment b. Self-Assessment c. Post-Assessment d. Criterion vs. Norm Assessment e. Criterion Test Construction
V. Self Assessment

I. RATIONALE

Application of the principles of assessment presented in this module will help to improve instructor effectiveness by suggesting ways to more reliably diagnose student entry level competencies, prescribe appropriate learning activities, and evaluate student achievement and instructional system effectiveness.

II. OBJECTIVES

A. Describe two functions of each of the following:

1. Preassessment
2. Self assessment
3. Post-assessment

B. Write a brief statement which clearly differentiates between norm-referenced and criterion-referenced assessment.

C. Given a list of objectives and test items, select those test items which are appropriate for the objectives indicated. For test items which are determined to be inappropriate, explain why they are not appropriate.

D. Given an objective and one or more test items, select those that are suitable for testing achievement of the objective.

E. As you are called upon to develop or revise criterion test items for the courses you teach, assure their suitability for testing achievement of the objectives by consistently applying the principles presented in this module.

III. PREASSESSMENT

If you think you can fulfill the objectives of this unit without

reference to the learning activities, turn to page 44, and evaluate yourself by taking the self assessment. If you don't think you can fulfill the objectives of this module, proceed to Section IV of this module.

If you find from the self assessment that you were not able to fulfill some of the objectives, follow the instructions given in the self assessment answers which will direct you to the parts of this module which can help you to fulfill those objectives.

If you are successful in fulfilling all of the objectives for this module, proceed to the next module.

IV. LEARNING ACTIVITIES

As indicated in the preceding module, the function of an instructional system is to cause desired and measurable change in the behavior of learners. Traditionally, courses are based on the assumption that every student enters a given course with the same amount of knowledge about or proficiency in the things taught in the course. Common sense, experience and research indicate that this assumption is incorrect. In order to realistically determine how instruction is progressing, how effective it was in causing the desired changes in student behavior, and how to improve it the next time, an evaluation process involving the use of accurate and appropriate measuring instruments is necessary. Data required for meaningful evaluation must be obtained through consistent preassessment, self assessment, and post-assessment.

A. Preassessment

The purpose of preassessment is to determine:

1. Whether or not the student has the necessary entry level knowledge and skills.
2. Where a student, having the necessary prerequisite knowledge or skills to fulfill some of the module objectives, should begin instruction.
3. Whether or not a student, having the necessary prerequisite skills, can already perform the behavior the learning activities were designed to develop.

The preassessment of student capability precedes formal instruction and should be based on the module or course objectives as well as prerequisite knowledge or skills. If preassessment indicates that a student has not achieved the prerequisite knowledge or skill levels established for a course or module, several options are available to instructors.

1. The student could be denied entry to the course and counseled to enroll in prerequisite or developmental studies courses as appropriate.
2. The student could be allowed to remain in the course providing special developmental modules are mastered in accordance with a mutually agreed upon time frame.

3. If prerequisite skills have been learned previously and forgotten, a review could be conducted before regualr instruction begins.

Information obtained through the preassessment of students having entry level skills or knowledge is used to prescribe appropriate learning activities. Ideally, the student should only be required to actively participate in those learning activities which promote mastery of objectives he has not yet achieved. Preassessment is the means through which information necessary for directing the student to the appropriate entry point in a module or course may be obtained.

Preassessment of prerequisite skills can be accomplished in several ways. For certain introductory courses, this evaluation may be accomplished through standardized diagnostic tests administered by the institution (ACT, SAT, Cognitive Style Mapping, etc.). An instructor may preassess a student by administering written or oral exams, observing student skills, or recalling student capability in previous courses or contacts.

Preassessment of module or course objectives must be incorporated within the design of each module in the course and be either instructor-managed or student-managed in order to achieve its intended purpose. If it is student managed, care must be taken to insure that it provides the student with enough information to realistically evaluate his ability to achieve module or course objectives, recognize deficient areas, and prescribe where he can and should enter the instructional system. The use of similar or parallel items in the preassessment and post assessment may also be useful in providing tangible evidence of instructional system effectiveness.

B. Self Assessment (Formative Evaluation)

For an instructional system to function properly, two kinds of self-assessments are necessary:

1. Immediate and continuous within-module assessment to provide feedback to the student concerning his progress.

2. End-of-module assessment to provide feedback to the student concerning how successful he can expect to be on the post-assessment.

As was indicated in the previous module, the major intent of feedback is to pinpoint and correct student learning deficiencies before they impair subsequent learning. By providing opportunities for self-assessment before proceeding to the next learning activity, the student can determine whether he needs to recycle through an already completed learning activity or select another which deals with the same subject. In this way the student sets his own specifications for achieving the behavioral objectives of a module. This takes the student's focus off the instructor and places it on the learning task.

The end-of-module self assessment permits the student to measure his learning progress by comparing the outcomes between preassessment and post-assessment. Self assessment items which match the performance, conditions and criteria of module objectives allow the student to realistically evaluate his level of achievement before taking the post-test (final assessment). This permits the student to recognize the need for further study in specific areas. If the self-assessment reveals that the student has achieved the module objectives, he can proceed with confidence with

the post-assessment and move on to the next module.

This system should contribute to the student's intrinsic reward system. As the student focuses on a series of tasks and his relationship to those tasks rather than his relationship to the instructor or his peers, any rewards (feelings of accomplishment) must come from within. Thus students are encouraged to develop an internal reward system that may contribute to lifelong learning.

C. Post-assessment (Final Assessment)

The post-assessment is given to the student by the instructor to determine the student's achievement of the module objectives. The results are used by the instructor and student as a measure of learning and a means of assessing the student's readiness for other modules. Since the effectiveness of instruction is best documented by measurable evidence of learning, the post-assessment becomes a vital element in the evaluation of the effectiveness of the instructional system as well.

D. Norm-Referenced vs. Criterion-Referenced Assessment

Although there are several different approaches to student assessment, the norm-referenced and the criterion-referenced approaches are the most common.

The norm-referenced approach assumes that there is a normal distribution of student aptitude, skills, knowledge, and competencies. Assessments, using the normal curve as a guide, assign grades by comparing students with each other. Using a normal curve for grading predestines a percentage of students to failure, no matter how effective instruction has been.

In criterion-referenced assessment, a standard of acceptable student performance is established when the objectives are developed. Student performance is then compared with that standard. Those who equal or exceed the standard have achieved mastery at the prescribed level and move on to the next module or course. Those who have not achieved the minimum level of performance are allowed to continue their study of the subject using the same materials or alternate materials and may take an alternate version of the post-assessment without penalty. The focus of this on what the student can do after instruction rather than on the means of instruction.

A systems approach to education is based upon the criterion-referenced approach. Because South Oklahoma City Jr. College is committed to a systems approach, all instructors must be skilled in the development of criterion test items which match in performance and conditions the particular behavioral objectives they are intended to measure. To promote the development of these skills, study the following:

Measuring Instructional Intent or Got a Match?, by Robert F. Mager.

E. Criterion Test Construction

The goal of an instructional system is to raise the performance of all students to the acceptable level specifically by the objectives. A major purpose of the criterion test (post-assessment) is to determine as accurately as possible when the acceptable performance level has been reached. Unfortunately, many tests do not accurately measure student achievement because the questions themselves contain structural defects which may either distract students or provide clues which influence their responses. The information presented in the following sections of this module are intended to provide assistance in the construction of questions which are clear to the student without inadvertently prompting his answer. Included are suggestions on how to construct several of the more common types of test items along with recommendations on when to use each type of item.

1. Multiple-Choice Items

Multiple-choice questions are versatile and can be used to measure knowledge of facts, terminology, concepts, and principles. They may not only test the ability to recognize but also to discriminate between several alternatives. The following are suggestions for writing technically adequate multiple-choice test items.

a. The stem of the question should be clear and present a single idea.

b. Avoid clues.

1. The stem should agree grammatically with each choice.
2. Choices should be similar in length and detail.
3. Wrong choices should seem possible to the uninformed.

c. Avoid the negative form if possible or capitalize or underline negative words.

d. Choices should each state only one idea.

e. Avoid the use of the statement "all of the above." Instead instruct the student to select all of the choices which may be correct.

2. Matching Items

Matching criterion test items are appropriate for testing knowledge of materials that are factual and homogenous in nature. The following suggestions may be helpful.

a. Instructions should clearly indicate whether an answer may be used more than once and whether more than one answer may be given for any of the questions.

b. All items in each column should be of the same type, i.e., names, dates, events, etc.

c. There should be between five and ten items in the left column, and two to four more items in right column to prevent selection by elimination.

d. The columns of a matching question should appear on a single page.

3. True-False Items

Although used frequently to test recognition of principles, true-false items are not as effective in criterion testing as many other types. They encourage rote memorization and can undermine a student's grasp of principles through the deliberate presentation of false information. If true-false items are used, the following recommendations should be considered.

a. The test should be constructed so that the student is instructed to circle or underline the correct answer rather than writing it. This simplifies the task of deciphering the student response.

b. Long and involved statements should be avoided. Students who might otherwise be able to answer the question may be confused by the complexity of the question.

c. The test question should present only ond idea or principle.

d. The truth or falsity of a question should not be based on a minor point or inconspicuous detail in the question.

e. Never use a double negative. True-false questions should be stated in a positive way.

f. Questions should be based on key ideas or principles.

g. Avoid the use of statements taken directly from the module.

4. Completion Items

Completion items may be used in criterion testing if they are limited to testing of enabling objectives or supporting knowledge. Completion items primarily test the student's ability to recall specific facts. Because they require short answers, they can often be scored more objectively than essay items. The following principles should be considered when writing completion items for a test.

a. Avoid items with so many blanks that the context of the material is not clear.

b. Words or phrases omitted should be key words or phrases.

c. The blank(s) should be placed as close as possible to the end of the statement so that by the time the student reaches the blank, he understands the nature of the question being asked.

d. There should be only one correct answer per blank.

e. Omitted phrases should be no more than three words in length.

f. Avoid giving clues.

   1. All blanks should be of uniform length.
   2. When "a" or "an" precede a blank, write it as a/an.

5. Short-Answer Items

Short-answer items may be used when the student is to recall facts, basic concepts or principles, or to make simple applications of what he has learned. Consider the following when constructing short-answer questions.

a. Make the question as specific as possible. If the question is too general, a student who knows the subject may miss the question by writing on the wrong part of a broad subject.

b. The required response should consist of no more than a short list of items or a few sentences.

c. If the answer calls for a response other than memorized facts, the student should be told the nature of the required response and the criteria by which his answer will be judged.

6. Essay Items

Essay items should be used when the student must demonstrate his ability to do creative or reflective thinking, organize knowledge in the solution of a problem, and express his solution in writing. They are not appropriate for measuring simple recall. The major difference between essay and short answer items is primarily in the length of the response. The major disadvantage of this type of item is that it is difficult to score objectively. When constructing essay items, consider the following principles.

a. Essay questions should ask the student to make analytic comparisons, to analyze or solve unencountered problems, to defend an opinion, or to apply rules to new situations.

b. Several specific and brief questions are preferable to fewer, more lengthy questions.

c. Each item should be limited to one idea or area of knowledge.

d. In the question provide information concerning how the student should structure his answer.

e. Indicate to the student information concerning the time allowed or how points will be awarded.

7. Psychomotor or Skills Assessment

Psychomotor or skills test items require the student to do something rather than just tell how to do it. The two major elements of this type of assessment are the task and the controlled conditions under which the task is to be performed. If the objectives define the task to be performed clearly and state how well each required task must be done, few subjective decisions will have to be made in the assessment process.

Controlled conditions in skill testing means that each student should be tested under conditions that will give the best possible chance to display the skill being measured, and the test conditions are the same for all students. The following questions should be considered when a skills test is being developed.

a. Has the skill to be measured been stated accurately?

b. Is the skill being measured representative of that indicated in the objective?

c. Will equipment being used in the assessment permit the student to demonstrate the skill being measured?

d. Will the tools furnished the student give him a reasonable chance for success in exhibiting the skill?

e. Are you primarily interested in evaluating the process through which a product is produced or the product itself?

f. What factors (speed, accuracy, or errors) should be considered?

g. Do the directions make it clear to the student exactly what he should do and how he will be evaluated?

h. Does each student face the same initial situation?

i. Can an expert complete the test satisfactorily given the skill, conditions, and the criteria for evaluation?

V. SELF ASSESSMENT

A. Describe two functions of each type of assessment indicated below:

1. Preassessment:

2. Self Assessment:

3. Post-Assessment:

B. In a brief written statement, clearly differentiate between norm-referenced and criterion-referenced assessment.

C. Read the following brief statements of objectives and test items and decide whether the corresponding test items are appropriate or inappropriate. If they are appropriate, place a check beside the item. If they are inappropriate, state why.

	OBJECTIVES	TEST ITEM
____1.	Cite orally the five largest cities in the world.	Name the five largest cities in the world.
____2.	Trace the flow of blood through the heart on a diagram.	Describe the structure of the heart.
____3.	Select the equipment needed for a given chemistry experiment.	Select the proper equipment for this chemistry experiment.
____4.	Locate a malfunctioning tube in a radio.	What meter is used to test radio tubes?
____5.	Define "objective".	Define "objective".
____6.	Deliver a five minute extemporaneous speech.	Describe how to organize for an extemporaneous speech.

D. Given the following objectives and allegedly suitable test items, check those test items that are suitable for testing achievement of each objective.

1. Objective: Match the name of electronic components with the symbols on a schematic drawing of any T.V. circuit.

Check the suitable test item

Test Items:

a. Draw the symbol of any five electronic components commonly found on a T.V. circuit schematic.

b. Match the electronic component symbols shown with the names provided.

c. Given a T.V. circuit schematic, match the name of each electronic component with the appropriate symbol shown.

Check the suitable test item

2. Objective: Given the principle forms of discourse, you will complete a 300-word paper illustrating one of those forms.

Test Items:

a. Complete a 300 word paper illustrating one of the principle forms of discourse.

b. Define discourse, briefly describe two principle forms and give an example of each.

c. Complete an objective examination which is based on the information from Unit III.

3. Objective: Use division to solve a given **word problem**.

Test Items:

a. 1421 ÷ 34 =

b. Kathy Hipson, the purchasing agent of Cain's Climbing Equipment Shop, bought 5,547 nuts at three for $1.00. What was the total cost?

c. $5\overline{)214}$

SELF ASSESSMENT ANSWERS:

A. 1. Preassessment -- See pages 38-39.

2. Self Assessment -- See pages 39-40.

3. Post-Assessment -- See page 40.

B. See page 40.

C. ✓ 1.

___2. The objective asks the student to "trace" while item asks the student to "describe". The test item is inappropriate.

✓ 3.

___4. The test item might test an enabling objective but it is not appropriate for the objective to be tested.

✓ 5.

___6. The objective specifies "delivery" of a speech while the test item asks for a description. The test item is inappropriate because it does not measure the behavioral requirement of the objective.

If you had problems with these, study Measuring Instructional Intent or Got A Match?, by Robert F. Mager.

D. 1a.
b.
c. ✓

2a. ✓
b.
c.

3a.
b. ✓
c.

Developing Learning Packets at South Oklahoma City Jr. College
Module 1 - General Rationale
Module 2 - Rationale
Module 3 - Objectives
Module 4 - Learning Activities
Module 5 - Assessment
Module 6 - Alternate Tracking
Module 7 - Approval and Revision

Module 6 - Alternate Tracking
I. Rationale
II. Objectives
III. Preassessment
IV. Learning Activities
a. What are alternate tracks?
b. Why alternate tracks?
c. How are alternate tracks developed?
V. Self Assessment

I. RATIONALE

The ideas presented in this module will help you improve the potential for student success in your courses and help you satisfy institutional expectations in the development of instructional programs which fulfill the needs of students having different aptitudes and learning styles.

II. OBJECTIVES

A. In your own words, define the term alternate track as it is used in this module.

B. List and describe three alternate tracks to which SOCJC is committed.

C. Write a paragraph which discusses the impact of learning styles on the development of alternate tracks.

D. Name and describe the five steps presented in this module for developing alternate tracks.

E. Accept the responsibility for being responsive to the varying learning styles of students by applying the principles presented in this module to develop alternate tracks which enhance their potential for success.

III. PREASSESSMENT

If you think you can fulfill the objectives of this unit without reference to the learning activities, turn to page 55, and evaluate yourself by taking the self assessment. If you don't think you can fulfill the objectives of this module, proceed to Section IV of this module.

If you find from the self assessment that you were not able to fulfill some of the objectives, follow the instructions given in the self assessment answers which will direct you to the parts of this module which can help you to fulfill those objectives.

If you are successful in fulfilling all of the objectives for this module, proceed to the next module.

IV. LEARNING ACTIVITIES

A. What are Alternate Tracks?

An alternate track is an instructional system (course) based on behavioral objectives which are identical to the objectives of a primary pre-existing instructional system. However, the methods employed to lead the student from entry level skills to terminal skills differ. Through alternate tracks, students are given the choice of alternative approaches to fulfill course objectives.

The instructional program at South Oklahoma City Junior College reflects the intent of the institution to provide at least three alternatives to students. These three tracks are defined on the basis of course structure and pacing as follows:

GROUP PACING: The professor will determine the rate at which students must work in order to achieve the objectives of the course. The group will move through the course as a unit by doing assignments and taking tests at predetermined times and dates. Progress will depend on certain time indicators, and attendance requirements may be a part of the professor's mode of presentation.

INDIVIDUAL PACING: The student, with the professor, will determine how quickly progress should be made through the objectives of the course. The student must, however, remain within the maximum time allotment for the course and respect the time periods designated for testing and laboratory work.

MULTIPLE PACING: The professor will provide group pacing for students wishing that mode and will allow students in the same section to work individually. Before each major unit, the student--with the professor--will determine which learning mode is more appropriate. For example, participation in the group lecture-discussion sessions might be desirable, while the activities and assessments might be done at an individual pace. Respect for the designated testing and laboratory times is necessary. The college policy of course completion time will be in effect.

The term alternate track is sometimes used to refer to alternative learning activities within a module which provide students a choice of strategies through which they may achieve mastery.

B. Why Alternate Tracks?

All educators are aware of the fact that each student is an individual, uniquely different in physical characteristics, personality, and general capabilities. One expression of these differences has been commonly referred to as the "life style" of the individual. More recently, it has become evident that these individual differences also influence an individual's preferred learning style.

Some students may be weak or deficient in a particular learning process (auditory, visual, tactile--kinesthetic) which is necessary for the successful performance of a specific task. To compensate for this deficiency, they will utilize to a greater degree related processes or abilities. For instance, a student with poor auditory skills may rely more heavily on visual association to learn. Primary reliance upon these intact learning abilities over an extended period of time results in the establishment of a particular pattern of learning or "learning style". An individual who depends chiefly upon visual input because his auditory processing abilities are weak or deficient may never really develop good auditory skills. Thus, he may never trust or have confidence in his listening abilities. The individual who always writes down phone numbers or other things he wants to remember rather than depending solely on auditory memory would be a good example. It should be obvious that an individual with this type of learning style (visual) would have less chance for success in a course where the subject matter is presented principly by means of auditory stimuli. The following statement from the College Bulletin is indicative of South Oklahoma City Junior College's commitment to be responsive to individual needs of this type.

> All educational programs and services are available in a variety of formats in order that the students may choose complimentary programs of study appropriate to their unique learning styles. Flexibility is achieved by extensive use of media, opportunity for regular classroom instruction, individual study, or a combination of both; and accessibility to seven entry points during the academic year.

C. How are Alternate Tracks Developed?

The process of developing an alternate track assumes the existence of an instructional system which has the same objectives as those to be developed. A logical first step in the process would be to analyze the existing system.

1. System Analysis

Analysis of the current states of the existing instructional system is necessary to orient the developer to the task. This analysis should focus principly on the three areas depicted on the right.

ANALYZE SYSTEM
Objectives
Student Characteristics
Teacher Characteristics

As indicated in Module 3, objectives are descriptions in behavioral terms of the skills and knowledge a student should have mastered when he completes the course. A review of these anticipated outcomes is necessary to insure that the original and alternate tracks are consistent in their goals. This is particularly important when alternate tracks will be managed by different instructors than those managing the initial track. The objectives are also important in suggesting alternate strategies which would be most suitable.

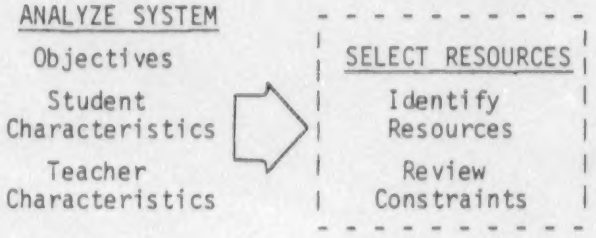
It is necessary to identify the needs and learning styles of the largest segment of those enrolled whose needs are not being adequately satisfied by the existing instructional track. The implementation of diagnostic testing and cognitive style mapping of new students entering the college will provide valuable information to instructors who are developing alternate learning tracks for a course. In addition to providing information about the student's preferred learning style, the maps can provide data from which the instructor can determine how to best adapt the new instructional system to differences in student interests, backgrounds, and learning rates.

The learning style of the instructor must be identified to reduce the potential that he may impose it on students who come to him for help or counseling.

The learning activities employed in the existing instructional track must be analyzed to insure that those selected for the alternate track will provide an alternative strategy for achieving course objectives.

2. Select Resources

The second step in the development of an alternate track is to select the resources to be used. The steps involved in this process are indicated in the schematic on the right.



The same principles which were presented in Module 4 for selecting learning activities may be applied in the development of alternate tracks. Since a major consideration in the selection of resources involves the identification of resources which are appropriate for group-paced, multiple-paced, or individual-paced options, the following additional information is presented for your convenience.

Recommended Alternate Strategies

Individual-Paced	Group-Paced		
	x	1.	Simulation and Gaming
x	x	2.	Computer-Assisted Instruction
x		3.	Audio-Tutorial
x		4.	PSI (Keller Plan)
	x	5.	Small-Group Discussion
	x	6.	Audio-Visual-Media Presentations
	x	7.	Instructional Television
x		8.	Programmed Texts
	x	9.	Schools Without Walls or the Use of the Community as a Learning Laboratory

Individual-Paced	Group-Paced	
x		10. Learning Contracts Between Teacher and Student which Enable Them to Define Specific Learning Goals, Resources, and Means of Evaluation which are Uniquely Tailored to each Student

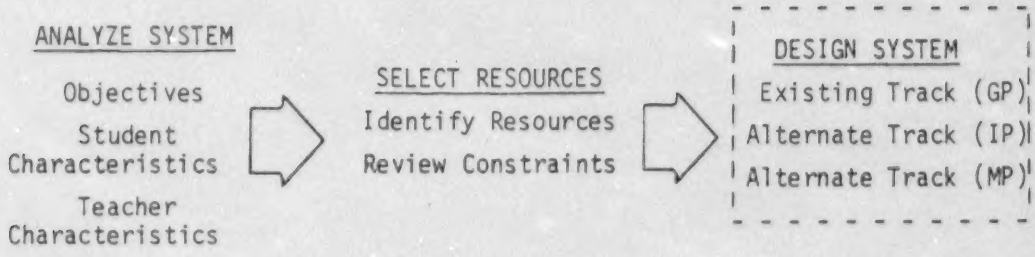
Constraints which must be considered include those imposed by the course objectives, the characteristics of students and instructors, the learning activities being employed in the existing instructional system, and by considerations external to the course itself. The objectives of a course may set an upper limit on the number of students in a course and therefore dictate the kind of instructional materials and procedures that may be used.

Since a major function of an alternate track is to serve the needs of students not being adequately served by an existing system, special consideration must be given to the types of stimuli to be included. According to Gagne and Briggs (1974), the following may be used to indicate how the types of stimuli selected as the basis for an alternate track imply the use of certain types of media.

Type of Stimuli	Media Options
1. Printed words	books; programmed instruction; handouts; charts; slide projectors; posters; chalkboard; checklists.
2. Spoken words	teacher; tape recording.
3. Still pictures and spoken words	slide-tapes; voice slide; lecture plus posters;
4. Motion, spoken words, and other sounds	motion pictures; television; live demonstration;
5. Pictoral portrayal of theoretical concepts	animated motion pictures; puppets and props.

Factors external to the course itself which influence the choices of an instructor include classroom size, equipment, supervisory personnel, and workload considerations.

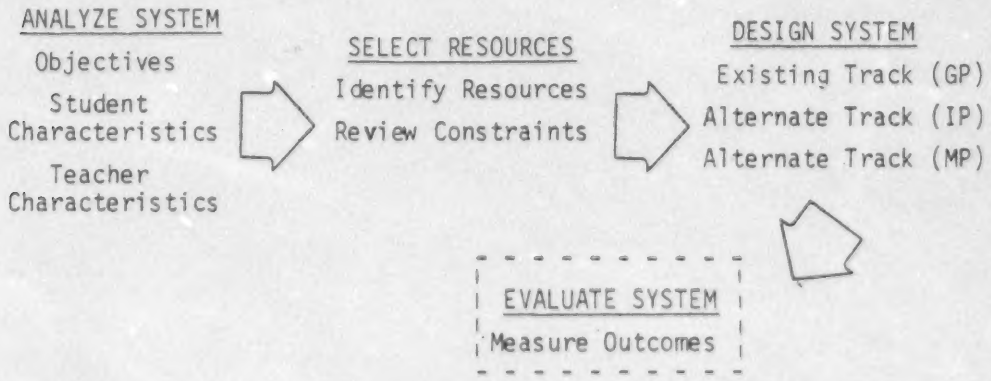
3. Design System



Once the existing system has been analyzed and the resources have been selected, the next step is to organize and implement all of the elements of the instructional system in order to bring about the desired changes in student behavior. This requires the application of all of the principles discussed in each of the earlier modules of this learning packet. In the organization and sequencing of the system, particular care should be taken to include as many as possible of the desirable characteristics listed below in the instructional system:

1. Active involvement in the learning process.
2. More responsibility for their own learning.
3. Individual pacing.
4. Maximum sensory input.
5. Time constraints.
6. Structure.
7. A learning experience that is more action-based, than theory-based, i.e., start with the experience and then give the theory rather than vice versa.
8. Success experiences.
9. Frequent feedback on their progress or lack of it.
10. "Relevancy".
11. A clear sense of what is expected of them.
12. A personal relationship with the teacher, e.g., a two-way communication process, a role model, concern on the teacher's part, enthusiasm by the teacher, etc.

4. Evaluate System



Evaluation is a necessary and integral part of any instructional development process. It is the process through which information is obtained in order to:

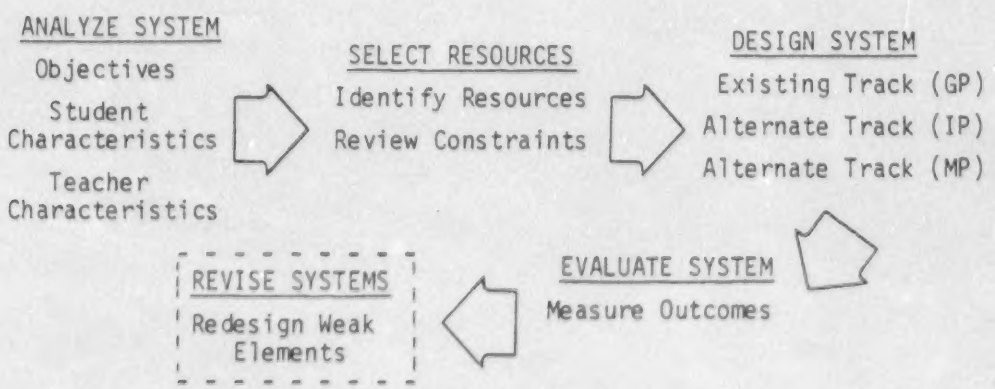
a. answer the question, "Who learned what and to what extent?"
b. raise questions and justify judgments on the quality and effectiveness of instructional system elements.
c. identify problems.
d. increase chances for success of the instructional system.

Through evaluation the instructor compares the expected outcomes with the actual outcomes. This may be accomplished through periodic review of the entire instructional system, criterion test results and feedback from students and others who have contact with students.

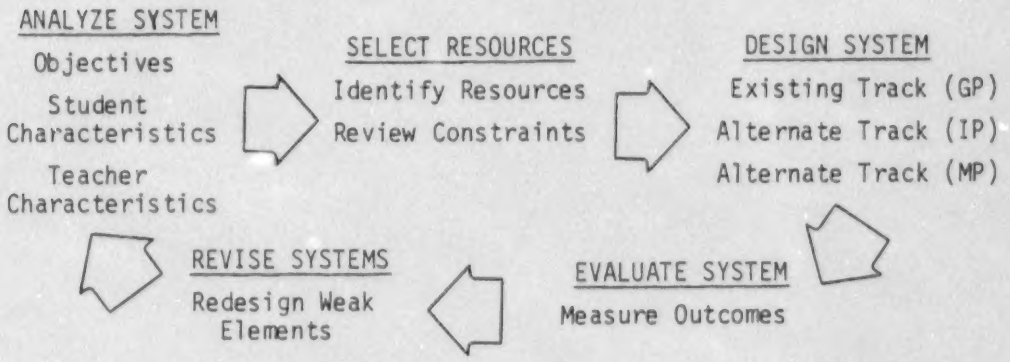
Periodic review of the instructional system is initiated by the instructor in order to obtain information concerning the effectiveness and relevancy of each element of the system from the instructor's point of view. Criterion test results provide an objective measure of the effectiveness of the instructional system in terms of actual student achievement. By comparing preassessment and post-assessment results, an objective appraisal of student development can be made. Simple tabulations of post-assessment criterion items can identify objectives which are not being consistently mastered by students. These objectives serve as indicators of the system elements which need revision.

Feedback from students is essential to provide input about the instructional system from their point of view. This may be accomplished through student interviews or questionnaires. Feedback from others may include information obtained indirectly from students by lab personnel. The instructors of other courses within a program sequence can also provide important feedback concerning student performance of skills obtained in the course being evaluated. Feedback from the employers of former students can also be helpful.

5. Revise System



On the basis of an on-going evaluation of the instructional system, the revision of ineffective elements is the next step in the process. Since the next module deals specifically with this process, no discussion will be presented here. As can be seen from this diagram below, the process of developing alternate tracks is a cyclic process which must be in continuous operation if the systems developed are to be responsive to varying interests, learning styles, aptitudes and learning rates.



IV. SELF ASSESSMENT

A. In your own words, define the term alternate track as it is used in this module.

B. List and describe three alternate tracks to which South Oklahoma City Junior College is committed.

C. Write a paragraph discussing the impact of learning styles on the development of alternate tracks.

D. Name and describe the five steps presented in this module for developing alternate tracks.

SELF ASSESSMENT ANSWERS

A. See page 48.

B. See page 48.

C. See pages 48-49.

D. See page 55.

Developing Learning Packets at South Oklahoma City Jr. College
Module 1 - General Rational
Module 2 - Rationale
Module 3 - Objectives
Module 4 - Learning Activities
Module 5 - Assessment
Module 6 - Alternate Tracking
Module 7 - Approval & Revision

Module 7 - Approval & Revision
I. Rationale
II. Objectives
III. Preassessment
IV. Learning Activities
A. Revision
1. Based on Periodic Review
2. Based on Criterion Test Results
3. Based on Feedback
B. Learning Packet Approval
V. Self Assessment

I. RATIONALE

The suggestions and procedures presented in this module can save you time and effort if systematically applied in the revision of instructional systems.

II. OBJECTIVES

A. Describe the use of each of the following as a basis for revision of a module or course.

1. Periodic Review
2. Criterion Test Results
3. Feedback

B. Formulate a list of up to 10 questions through which useful data not currently available about a course you teach could be obtained through Section IV of the Student Instructional Report (SIR).

C. Summarize the procedure for approval of new or revised learning packets at SOCJC.

D. Assist with the evaluation and revision of this learning packet by completing the questionnaire in Appendix B and turning in the completed response sheet at the office of the Vice President of Instructional Affairs.

E. Demonstrate acceptance of your responsibility for the revision of instructional materials by adopting and consistently applying revision techniques which are appropriate for the courses you teach.

III. PREASSESSMENT

If you believe that you can accomplish the objectives of this module without reference to the information presented, turn to page 63 and take the self assessment.

If you are uncertain about being able to fulfill the objectives or have determined from the self assessment that you could not fulfill the objectives of this unit, refer to the material presented in the next section of this module.

A. Revision

Revision consists of the substitution or alteration of instructional elements which are responsible for system shortcomings and the addition of necessary missing elements. These changes are made to improve student achievement of the terminal skills or knowledge designated for a module or course. Identification of defective or missing elements is accomplished by analyzing data obtained through evaluation of the system.

Subsequent sections of this module suggest methods which can be used to diagnose deficiencies and identify defective elements using each of the three evaluation techniques described in the preceding module.

1. Revision Based on Periodic Review

Periodic review is a systematic review of each of the elements of an instructional system to make sure that they are properly designed and are fulfilling their intended purposes from the instructor's point of view. Periodic review may be initiated in response to a textbook change, a major revision in course content or a change of emphasis resulting from changing job markets or varying expectations of programs serviced by the instructional system.

The following questions may be used as a general guide for the periodic review of an entire instructional system or an individual module within a system.

a. Course/Module Content

1) Have major student groups served by the course been identified?

2) Have course/module competency statements been developed for the course/module?

3) Are the competency statements consistent with student expectations for the course/module?

4) Are the competency statements consistent with the expectations of employers/transfer institutions?

5) Are the competency statements consistent with institutional expectations?

6) Are prerequisites realistic and necessary?

b. Rationale

1) Does the rationale indicate what is going to be learned?

2) Does the rationale indicate why the course/module is important to the student?

3) Is the rationale positively motivating?

4) Is the language of the rationale clear and understandable?

c. Objectives

1) Have all competencies been translated into behavioral objectives?

2) Is the behavior described in each objective measurable?

3) Does each objective include a description of acceptable performance criteria?

4) Does each objective specify the conditions of evaluation?

5) Is each objective limited enough to be attained within the time allowed for the course/module?

6) Is each objective relevant to the attainment of course/module competencies?

7) Is each objective stated in a clear and understandable manner?

d. Preassessment

1) Does the preassessment indicate whether or not the student has entry level knowledge and skills?

2) Does it indicate which objectives a student with prerequisite skills can already master and which he cannot?

3) Does it indicate whether or not a student has already mastered the objectives the course/module is designed to develop?

4) Are the directions clearly stated?

e. Learning Materials and Activities

1) Are the directions for procedures clearly stated?

2) Do the learning activities contribute to achievement of the instructional objectives?

3) Have materials and activities been provided for the student who learns best by visual means? by oral-aural means? by physical means?

4) Are learning materials and activities available in sufficient number for the number of students in the course?

5) Do learning activities allow students to practice in a variety of modes in order to achieve objectives?

6) Do learning activities provide frequent feedback on student progress or lack of it?

7) Is the amount of time allotted for the achievement of course/module objectives realistic?

f. Self assessment

1) Does the self assessment allow the student to determine whether he needs to recycle himself through additional learning activities before taking the final assessment?

2) Does the self assessment aid the student to set his own specifications for achieving the learning objectives?

3) Are the instructions clearly stated?

g. Post-assessment

1) Do criterion test items match the objectives in performance? in conditions? in criteria?

2) Do post-test results help the student to determine his next steps in learning?

3) Are directions clearly stated?

h. Evaluation and Revision

1) Do differences in pretest and post-test results provide an accurate measure of student learning?

2) Is sufficient data collected from testing to provide feedback for continued curriculum evaluation and revision?

3) Are you willing to share accountability for learning with the students enrolled in your course?

2. Revision Based on Criterion Test Results

Since the purpose of an instructional system is to take the student from one level of knowledge or skill to another, one of the most meaningful indicators of system effectiveness is the post-assessment. A determination of the number of terminal objectives achieved by each student and the proportion of students

who achieved each terminal objective can reveal which instructional procedures need revision. Although there are many possible approaches to revision based on criterion test results, excellent discussions of two alternatives are found in the book, Learning System Design: An Approach to the Improvement of Instruction by Robert H. Davis, Lawrence T. Alexander and Stephen L. Yelton and Handbook on Formative and Summative Evaluation of Student Learning by Benjamin S. Bloom, J. Thomas Hastings and George F. Madaus.

A criticism of revision based solely on criterion test results is that while it does identify the test items that are missed, it does not indicate why the items are missed or how deep, how extensive or in what form the revision should occur to compensate for learning failure. Gropper (1975) proposed a revision strategy based on an analysis of specific student learning/performance failures and the diagnosis of specific program design elements which have failed. Although much more complicated, this strategy is more analytic and therefore more efficient. Design failures to which this strategy is particularly well suited include inadequate treatment of prerequisites, inadequate accommodation of target audience needs, inadequate sequencing, inadequacies of omission and inadequacies of commission.

3. Revision Based on Feedback

Student feedback is an additional source of information through which evidence of system design deficiencies may be recognized. Information about the problems students encountered may be obtained during or following use of the instructional system.

Student feedback is the most informative source of information concerning the following system deficiencies:

a. widespread comprehension failures
b. motivation failures
c. failure to understand general practice task requirements
d. need for help at transition points between tasks
e. confusion about task requirements or attentional requirements
f. difficulties with learning activities
g. cues or examples which are inappropriate for a given audience

Student feedback can be obtained through student comments, interviews, and questionnaires administered on a regular basis. Space is provided in Section IV of the Student Instructional Report (see Appendix A) for ten supplementary questions. By providing the students with a list of questions related to specific areas of a course that you would like to evaluate, feedback can be obtained with almost no effort on the part of the instructor.

In addition to student feedback, comments of employers, instructors of subsequent courses in a program and colleagues at institutions to which students transfer may also provide valuable information for identifying deficiencies in instructional systems which affect student performance after the course.

B. Learning Packet Approval and Printing

The procedure for approval of new or revised learning packets prior to printing is described in the Policies and Procedures Manual as follows:

> A professor who is developing or revising a learning packet will usually consult frequently with the Program Manager before submitting a learning packet for printing or reprinting. If the learning packet is consistent with guidelines established in the professor's job description, the final approval process begins. The Program Manager and professor discuss the contents and, upon mutual agreement, the professor completes any necessary changes. The Program Manager forwards the master copy of a new or revised packet and a completed "Learning Packet Order Form" to the Vice President of Instructional Affairs. The packet is checked and either returned to the Program Manager for final changes or sent to the Student Store Manager who initiates the duplication of the packet.

V. SELF ASSESSMENT

A. Describe the use of each of the following as a basis for revision of a module or course.

1. Periodic Review -

2. Criterion Test Results -

3. Feedback -

B. Formulate a list of up to 10 questions through which useful data not currently available about a course you teach could be obtained through Section IV of the Student Instructional Report. (A copy of the S.I.R. is provided for your convenience in Appendix A.)

C. Summarize the procedure for approval of new or revised learning packets at S.O.C.J.C.

D. Complete the questionnaire in Appendix B and turn in your completed response sheet at the office of the Vice President of Instructional Affairs.

Self Assessment Answers

A. See page 59 of this learning packet.

B. Refer to the copy of the S.I.R. in Appendix A to make sure that your questions do not duplicate data already being collected.

C. See page 63 of this learning packet or pages 70-71 in the Policies and Procedures Manual.

D. Thanks for your feedback!

Literature Cited

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STUDENT INSTRUCTIONAL REPORT

Section _____

Course Title _____

Instructor _____

estionnaire gives you an opportunity to express anonymously your ... this course and the way it has been taught. Indicate the response closest to your view by checking the appropriate box.

SECTION I Items 1-20. Check (√) one response number for each question.

NA 0 ☐ = Not Applicable or don't know. The statement does not apply to this course, or instructor, or you simply are not able to give a knowledgeable response

SA 4 ☐ = Strongly Agree. You strongly agree with the statement as it applies to this course or instructor

A 3 ☐ = Agree. You agree more than you disagree with the statement as it applies to this course or instructor

D 2 ☐ = Disagree. You disagree more than you agree with the statement as it applies to this course or instructor

SD 1 ☐ = Strongly Disagree. You strongly disagree with the statement as it applies to this course or instructor

	NA	SA	A	D	SD
1. The instructor's objectives for the course have been made clear	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
2. There was considerable agreement between the announced objectives of the course and what was actually taught	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
3. The instructor used class time well	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
4. The instructor was readily available for consultation with students	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
5. The instructor seemed to know when students didn't understand the material	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
6. Lectures were too repetitive of what was in the textbook(s)	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
7. The instructor encouraged students to think for themselves	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
8. The instructor seemed genuinely concerned with students' progress and was actively helpful	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
9. The instructor made helpful comments on papers or exams	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
10. The instructor raised challenging questions or problems for discussion	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
11. In this class I felt free to ask questions or express my opinions	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
12. The instructor was well-prepared for each class	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
13. The instructor told students how they would be evaluated in the course	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
14. The instructor summarized or emphasized major points in lectures or discussions	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
15. My interest in the subject area has been stimulated by this course	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
16. The scope of the course has been too limited; not enough material has been covered	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
17. Examinations reflected the important aspects of the course	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
18. I have been putting a good deal of effort into this course	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
19. The instructor was open to other viewpoints	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐
20. In my opinion, the instructor has accomplished (is accomplishing) his or her objectives for the course	0 ☐	4 ☐	3 ☐	2 ☐	1 ☐

SECTION II Items 21-30. Check (√) one response number for each question.

21. For my preparation and ability, the level of difficulty of this course was:

1 ☐ Very elementary
2 ☐ Somewhat elementary
3 ☐ About right
4 ☐ Somewhat difficult
5 ☐ Very difficult

22. The work load for this course in relation to other courses of equal credit was:

1 ☐ Much lighter
2 ☐ Lighter
3 ☐ About the same
4 ☐ Heavier
5 ☐ Much heavier

23. For me, the pace at which the instructor covered the material during the term was:

1 ☐ Very slow
2 ☐ Somewhat slow
3 ☐ Just about right
4 ☐ Somewhat fast
5 ☐ Very fast

24. To what extent did the instructor use examples or illustrations to help clarify the material?

4 ☐ Frequently
3 ☐ Occasionally
2 ☐ Seldom
1 ☐ Never

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Questionnaire continued on the other side.

25. Was class size satisfactory for the method of conducting the class?

1 ☐ Yes, most of the time
2 ☐ No, class was too large
3 ☐ No, class was too small
4 ☐ It didn't make any difference one way or the other

26. Which one of the following best describes this course for you?

1 ☐ Major requirement or elective within major field
2 ☐ Minor requirement or required elective outside major field
3 ☐ College requirement but not part of my major or minor field
4 ☐ Elective not required in any way
5 ☐ Other

27. Which one of the following was your most important reason for selecting this course:

1 ☐ Friend(s) recommended it
2 ☐ Faculty advisor's recommendation
3 ☐ Teacher's excellent reputation
4 ☐ Thought it would help me
5 ☐ It was required
6 ☐ Subject was of interest
7 ☐ Other

28. Do you expect to Master (earn credit in) this course by the end of the present term?

1 ☐ Yes
2 ☐ No
3 ☐ No, but I plan to re-enroll in the course.

29. What is your class level?

1 ☐ Freshman 1-29 credit hours
2 ☐ Sophomore 30-65 credit hours
3 ☐ Other (More than 65 credit hours)

30. Sex:

1 ☐ Female
2 ☐ Male

SECTION III Items 31-39. Check (√) one response number for each question.

	Not applicable, don't know, or there were none.	Excellent	Good	Satisfactory	Fair	Poor
31. Overall, I would rate the learning packet	0☐	5☐	4☐	3☐	2☐	1☐
32. Overall, I would rate the textbook(s)	0☐	5☐	4☐	3☐	2☐	1☐
33. Overall, I would rate the tapes and/or slides	0☐	5☐	4☐	3☐	2☐	1☐
34. Overall, I would rate the quality of the exams	0☐	5☐	4☐	3☐	2☐	1☐
35. I would rate the general quality of the lectures	0☐	5☐	4☐	3☐	2☐	1☐
36. I would rate the overall value of class discussions	0☐	5☐	4☐	3☐	2☐	1☐
37. Overall, I would rate the laboratories	0☐	5☐	4☐	3☐	2☐	1☐
38. I would rate the overall value of this course to me as	0☐	5☐	4☐	3☐	2☐	1☐

39. Compared to other instructors you have had (secondary school and college), how effective has the instructor been in this course? (Check (√) one response number.)

One of the most effective (among the top 10%)	More effective than most (among the top 30%)	About average	Not as effective as most (in the lowest 30%)	One of the least effective (in the lowest 10%)
5☐	4☐	3☐	2☐	1☐

SECTION IV Items 40-49. If the instructor provided supplementary questions and response options, use this section for responding. Check (√) only one response number for each question.

	NA									
40.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
41.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
42.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
43.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
44.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
45.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
46.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
47.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
48.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐
49.	0☐	1☐	2☐	3☐	4☐	5☐	6☐	7☐	8☐	9☐

If you would like to make additional comments about the course or instruction, use a separate sheet of paper. You might elaborate on the particular aspects you liked most as well as those you liked least. Also, how can the course or the way it was taught be improved? PLEASE GIVE THESE COMMENTS TO THE INSTRUCTOR.

If you have any comments or suggestions about this questionnaire (for example, the content or responses available), please address them to the Dean of Instruction, South Oklahoma City Junior College.

Questionnaire on

Preparing Learning Packets at SOCJC

In order to help make this learning packet as useful as possible, complete the following questionnaire. Your ideas and opinions are valuable sources of input. Please take your time and respond thoughtfully. The bottom part of the answer sheet is for your comments. Feel free to write comments of clarification or additions about any topic.

Darken the letter corresponding to your answer for each question below.

Questions:

1. Employment category

   A. Administrative
   B. Full-time Faculty
   C. Adjunct Faculty
   D. Professional Non-Instructional
   E. Classified

2. Institute
   A. Allied Health
   B. Business & Management
   C. Human Affairs
   D. Media & the Arts
   E. Natural & Applied Science

3. Formal education - highest degree attained

   A. None
   B. Associate Degree
   C. Bachelor's Degree
   D. Master's Degree
   E. Doctorate

4. Total prior teaching experience - years.

   A. None
   B. 1-2
   C. 3-5
   D. 6-9
   E. 10 or more

5. Teaching experience at junior college level - years

   A. None
   B. 1-2
   C. 3-5
   D. 6-9
   E. 10 or more

6. Related job experience - years

A. None
B. 1-2
C. 3-5
D. 6-9
E. 10 or more

Rate the BENEFIT you received from each module topic.
Use the rating scale (from a to e):

a	b	c	d	e
Did Not use	No Benefit	Slightly Beneficial	Beneficial	Highly Beneficial

7. General Rationale
8. Rationale
9. Objectives
10. Learning Activities
11. Assessment
12. Alternate Tracking
13. Approval and Revision

Rate the USEFULNESS of the following module elements or materials in helping you to learn about each topic. Use the rating scale (from a to e):

a	b	c	d	e
Did Not use	No Benefit	Slightly Beneficial	Beneficial	Highly Beneficial

14. Table of Contents
15. Rationale
16. Objectives
17. Preassessment
18. Preparing Instructional Objectives, by Robert F. Mager.
19. Tape-slide Presentation, Objectives for Instructional Programs (Adapted for use at SOCJC).
20. Measuring Instructional Intent or Got a Match?, by Robert F. Mager.
21. Learning Activity Written Discussions
22. Self Assessment
23. Appendix A
24. Diagrams and flow charts

If the learning packet were revised, rate the value of each of the following changes. Use the rating scale (from a to e).

a	b	c	d	e
Did Not use	No Benefit	Slightly Beneficial	Beneficial	Highly Beneficial

25. Include an index.
26. Use italics, underlining, spacing, and variation in type size to set off changes in types of content.
27. Include more diagrams, charts and illustrations.
28. Include practice response items.
29. Provide more detailed discussions on some topics. (Identify these topics under Comments.)
30. Simplify discussions on some topics. (Identify these on your answer sheet under Comments.)
31. Provide more alternative learning activities such as video tapes, tape-slide presentations, etc. (Identify the topics these should deal with on your answer sheet under Comments.)
32. Include a glossary of terms.

Darken the letter which corresponds with your answer to each of the following questions.

a	b
yes	no

33. Have you ever been a student in a class which used a systems approach to education?

34. Have you ever taught a course using a systems approach to education?

35. Have you developed a course using a systems approach to education?

ANSWER SHEET

Questionnaire on Preparing Learning Packets at S.O.C.J.C.

• BE SURE YOUR MARKS ARE HEAVY AND BLACK. ERASE COMPLETELY ANY ANSWER YOU WISH TO CHANGE. •

_____ 1 A B C D E	_____ 11 A B C D E	_____ 21 A B C D E	_____ 31 A B C D E
_____ 2 A B C D E	_____ 12 A B C D E	_____ 22 A B C D E	_____ 32 A B C D E
_____ 3 A B C D E	_____ 13 A B C D E	_____ 23 A B C D E	_____ 33 A B C D E
_____ 4 A B C D E	_____ 14 A B C D E	_____ 24 A B C D E	_____ 34 A B C D E
_____ 5 A B C D E	_____ 15 A B C D E	_____ 25 A B C D E	_____ 35 A B C D E
_____ 6 A B C D E	_____ 16 A B C D E	_____ 26 A B C D E	
_____ 7 A B C D E	_____ 17 A B C D E	_____ 27 A B C D E	
_____ 8 A B C D E	_____ 18 A B C D E	_____ 28 A B C D E	
_____ 9 A B C D E	_____ 19 A B C D E	_____ 29 A B C D E	
_____ 10 A B C D E	_____ 20 A B C D E	_____ 30 A B C D E	

Comments

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JUN 3 1983